CIVIL TECH LABS

Accredited by **NABL** as per ISO/ IEC 17025 : 2005

5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027

Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com

T-2654

To,

Assistant Executive Engineer,
Yelahanka Satalite Town Sub Division,
BBMP.

14th January 2016

Dear Sir,

Sub: Testing of Materials.

As requested, tests on physical properties were carried out for the Burnt Bricks supplied by you, for the work of **'Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

Khushboo

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Quality Manager

S. Dayanand - AE

CIVIL TECH LABS

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TEST REPORT

TEST ON CEMENT

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of the Agency	Sri. Thilak Kumar H. S.
Date of Testing	14/01/2016

Tests	**Test Method As Per IS & Apparatus**		**Results**		**Requirements As Per IS 8112:1989**	**Remarks**
	IS Code	**Method**	**Value**	**Unit**		
Initial Setting Time	**IS-4031 (Part-5) 1988**	VICAT	49	min	Not Less Than 30 Minutes	Satisfies Requirement
Final Setting Time	**IS-4031 (Part-5) 1988**	VICAT	489	min	Not More Than 600 Minutes	Satisfies Requirement
Soundness	**IS-4031 (Part-3) 1988**	LE-CHATELIER	4	mm	Not More Than 10 mm	Satisfies Requirement

Note:

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Quality Manager

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TEST REPORT

GRADATION TEST ON COARSE AGGREGATES 40mm ↓ Graded

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of Agency	Sri. Thilak Kumar H. S.
Date of Testing	14/01/2016
Specific Gravity	2.66
Water Absorption	0.29%
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011), IS : 2386 (Part III)-1963 (Reaffirmed 2011)

IS Sieve Designation (mm)	Sieve Analysis (% Passing IS Sieve)	Grading Requirement as per IS:383-1970 (Reaffirmed 2011)	Remarks
80	100	100	Satisfies the requirement
40	98.7	95-100	
20	56.4	30-70	
10	27.4	10-35	
4.75	3.8	0-5	

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Quality Manager

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TEST REPORT

GRADATION TEST ON FINE AGGREGATES

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of Agency	Sri. Thilak Kumar H. S.
Date of Testing	14/01/2016
Specific Gravity	**2.57**
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011), IS : 2386 (Part III)-1963 (Reaffirmed 2011)

Sample	IS Sieve designation (mm)	Sieve Analysis (% Passing IS Sieve)	Grading Requirement as per IS:383-1970 (Reaffirmed 2011)				Grading Zone	Remarks
			ZONE-I	ZONE-II	ZONE-III	ZONE-IV		
River Sand	10	**100**	100	100	100	100	II	Satisfies the requirement
	4.75	**99.1**	90-100	90-100	90-100	95-100		
	2.36	**87.3**	60-95	75-100	85-100	95-100		
	1.18	**76.7**	30-70	55-90	75-100	90-100		
	0.6	**49.4**	15-34	35-59	60-79	80-100		
	0.3	**26.2**	5-20	8-30	12-40	15-50		
	0.15	**7.9**	0-10	0-10	0-10	0-15		

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Khushboo

(KHUSHBOO L
Quality Manager

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TEST REPORT

GRADATION TEST ON COARSE AGGREGATES 20mm ↓ Graded

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of Agency	Sri. Thilak Kumar H. S.
Date of Testing	14/01/2016
Specific Gravity	2.64
Water Absorption	0.29%
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011), IS : 2386 (Part III)-1963 (Reaffirmed 2011)

IS Sieve Designation (mm)	Sieve Analysis (% Passing IS Sieve)	Grading Requirement as per IS:383-1970 (Reaffirmed 2011)	Remarks
40	100	100	Satisfies the requirement
20	99.1	95-100	
10	45.3	25-55	
4.75	8.2	0-10	

Note:

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Khushboo

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Quality Manager

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TEST REPORT
TESTS ON SOLID BLOCKS

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of the Agency	Sri. Thilak Kumar H. S.
Date of Testing	14/01/2016
Technical Reference	IS: 2185(Part-I)-2005 (Reaffirmed 2010)
No. of samples tested	8
Grade	C (4.0)

1. COMPRESSIVE STRENGTH

Sl. No.	Nominal Dimension (cms)	Compressive strength (N/mm^2)	Minimum Compressive Strength as per IS: 2185(Part-I)-2005 (Reaffirmed 2010)	
			Individual	Avg. of 8 samples
1	40x10x20	4.2	Minimum Compressive Strength of Individual Units	Minimum Average Compressive Strength of Units
2		4.1		
3		4.3	For Grade C (5.0)- 4.0 N/mm^2 For Grade C (4.0)- 3.2 N/mm^2	For Grade C (5.0)- 5.0 N/mm^2 For Grade C (4.0)- 4.0 N/mm^2
4		4.2		
5		4.1		
6		4.3		
7		4.2		
8		4.4		
Average Compressive strength (N/mm^2)		**4.2**		

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2. WATER ABSORPTION

Sl. No.	Nominal Dimension (cms)	Water Absorption (% by weight)	Average (% by weight)	Requirements as per IS : 2185(Part-I)-2005 (Reaffirmed 2010)
1	40x10x20	7.72	7.71	When three samples are tested the average water absorption shall not be more than 10% by mass
2		7.69		
3		7.71		

3. BLOCK DENSITY

Sl. No.	Nominal Dimension (cms)	Block Density (Kg/cum)	Average (Kg/cum)	Requirements as per IS : 2185(Part-I)-2005 (Reaffirmed 2010)
1	40x10x20	1865.1	1866.4	The Solid Concrete blocks used as load bearing units shall have average block density not less than 1800Kg/m³
2		1866.3		
3		1867.8		

Remarks	Satisfies the Requirements.

Note:

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(KHUSHBOO L.)
Quality Manager

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TEST REPORT

TESTS ON SOLID BLOCKS

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of the Agency	Sri. Thilak Kumar H. S.
Date of Testing	14/01/2016
Technical Reference	IS: 2185(Part-I)-2005 (Reaffirmed 2010)
No. of samples tested	8
Grade	C (4.0)

1. COMPRESSIVE STRENGTH

Sl. No.	Nominal Dimension (cms)	Compressive strength (N/mm^2)	Minimum Compressive Strength as per IS: 2185(Part-I)-2005 (Reaffirmed 2010)	
			Individual	Avg. of 8 samples
1	40x20x20	4.3	Minimum Compressive Strength of Individual Units	Minimum Average Compressive Strength of Units
2		4.2		
3		4.4	For Grade C (5.0)- 4.0 N/mm^2 For Grade C (4.0)- 3.2 N/mm^2	For Grade C (5.0)- 5.0 N/mm^2 For Grade C (4.0)- 4.0 N/mm^2
4		4.2		
5		4.1		
6		4.3		
7		4.4		
8		4.2		
Average Compressive strength (N/mm^2)		**4.3**		

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2. WATER ABSORPTION

Sl. No.	Nominal Dimension (cms)	Water Absorption (% by weight)	Average (% by weight)	Requirements as per IS : 2185(Part-I)-2005 (Reaffirmed 2010)
1	40x20x20	7.58	**7.59**	When three samples are tested the average water absorption shall not be more than 10% by mass
2		7.61		
3		7.59		

3. BLOCK DENSITY

Sl. No.	Nominal Dimension (cms)	Block Density (Kg/cum)	Average (Kg/cum)	Requirements as per IS : 2185(Part-I)-2005 (Reaffirmed 2010)
1	40x20x20	1864.8	**1865.4**	The Solid Concrete blocks used as load bearing units shall have average block density not less than 1800Kg/m^3
2		1865.1		
3		1866.4		

Remarks	Satisfies the Requirements.

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T-2654

To,

Assistant Executive Engineer,
Yelahanka Satalite Town Sub Division,
BBMP.

21st January 2016

Dear Sir,

Sub: Testing of Wet Mix Macadam.

As requested, tests on physical properties were carried out for the Wet Mix Macadam supplied by you, for the work of **'Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

Khushboo

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Quality Manager

Sri Dayanand

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TEST REPORT

GRADATION TEST ON WET MIX MACADAM

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of the Agency	Sri. Thilak Kumar H. S.
Date of Testing	21/01/2016
Technical Reference	MORTH Table 400-11

IS Sieve Designation (mm)	% By Weight Passing IS Sieve	Actual % By Weight Passing IS Sieve	Remarks
53	100	**100**	**Satisfy the Requirements**
45	95-100	**98.6**	
22.4	60-80	**72.6**	
11.2	40-60	**56.3**	
4.75	25-40	**35.1**	
2.36	15-30	**24.8**	
0.6	8-22	**17.9**	
0.075	0-8	**6.5**	

Note:

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T-2654

To,

Assistant Executive Engineer,
Yelahanka Satalite Town Sub Division,
BBMP.

02nd February 2016

Dear Sir,

Sub: Testing of Semi Dense Bituminous Concrete.

As requested, tests on physical properties were carried out for the Semi Dense Bituminous Concrete supplied by you, for the work of **'Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

Khushboo

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Quality Manager

Sri Dayanand AE

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TEST REPORT

TEST ON THE DETERMINATION OF BITUMEN CONTENT ON SEMI DENSE BITUMINOUS CONCRETE MIX-GRADE 2

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of the Agency	Sri. Thilak Kumar H. S.
Date of Testing	02/02/2016

A)

Sl. No.	Test	Test Method	Technical Reference
1	Extraction of mineral aggregate	**Test Method A (Centrifuge Method)**	**ASTM: D2172/ D2172M-11**
2	Determination of amount of mineral matter/fines in the extract	**Ashing Method**	

B)

Specification: As Per MORTH (4th Revision) Table 500-15, Bitumen Content for SDBC Grade-2 is MIN 5%

Sl. No.	Description	Values
1	Weight of bituminous mixture before extraction test, W_1 g	2000
2	Weight of mineral aggregate obtained from centrifuge extractor, W_2 g	1883.2
3	Weight of mineral matter in the total volume of extract (by ashing), W_3 g	11.9
4	Total weight of aggregate in the bituminous mixture, W_4 g = (W_2 +W_3) g	1895.1
5	Total weight of Bitumen extracted from the mixture, W_5 g = (W_1-W_4) g	104.9
6	Bitumen content in %, (W_5/W_1) %	5.24

Remarks	**Satisfies the requirements.**

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TEST REPORT

GRADATION TEST ON SEMI DENSE BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of the Agency	Sri. Thilak Kumar H. S.
Date of Testing	02/02/2016
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-15 for SDBC Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
13.2	100	**100**	**Satisfies the requirements**
9.5	90-100	**99.1**	
4.75	35-51	**44.2**	
2.36	24-39	**25.8**	
1.18	15-30	**22.9**	
0.3	9-19	**16.9**	
0.075	3-8	**7.1**	

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Quality Manager

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TEST REPORT

GRADATION TEST ON SEMI DENSE BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Satalite Town Sub Division, BBMP.
Name of Work	Asphalting to cross roads from 2nd to 6th cross and drains in Mathru layout in ward no 04.
Name of the Agency	Sri. Thilak Kumar H. S.
Date of Testing	02/02/2016
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-15 for SDBC Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
13.2	100	**100**	**Satisfies the requirements**
9.5	90-100	**98.9**	
4.75	35-51	**43.5**	
2.36	24-39	**26.8**	
1.18	15-30	**23.5**	
0.3	9-19	**17.1**	
0.075	3-8	**6.5**	

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